Application No. 10/675,740
Response to OA of 09/20/2005

Remarks

In the present response, ten claims (1-3, 5-7, 13, 19, 23, 27) are amended; and three claims (4, 16, 24) are canceled. Applicants believe that no new matter is entered. Claims 1-3, 5-8, 10-15, 17-19, 21-23, and 25-30 are presented for examination.

I. Claim Rejections: 35 USC § 102

Claims 1, 7-8, 10-13, 19, and 22-30 are rejected under 35 USC § 102(b) as being anticipated by USPN 6,188,615 (Perner). This rejection is traversed.

A proper rejection of a claim under 35 U.S.C. §102 requires that a single prior art reference disclose each element of the claim. See MPEP § 2131, also, *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 U.S.P.Q. 303, 313 (Fed. Cir. 1983). Since Perner neither teaches nor suggests each element in the rejected claims, these claims are allowable over Perner.

Applicants address the rejections with respect to the independent claims. The dependent claims are allowable for at least the reasons given in connection with the respective independent claim.

Claim 1

Independent claim 1 recites numerous limitations that are not taught or suggested in Perner. For example, claim 1 recites that the read circuit "provides calibration for adjusting a coarse calibration and a fine calibration." Perner does not teach or suggest that a read circuit provides calibration for adjusting both coarse and fine calibrations. Further, the Office Action indicates that dependent claim 4 is allowable ("the read circuit is configured to provide a complete calibration that provides adjustments to a coarse calibration value and a fine calibration value").

Claim 7

Independent claim 7 recites numerous limitations that are not taught or suggested in Perner. For example, claim 7 recites that the up/down counter "receives a clock pulse to adjust a fine calibration value in a tune-up calibration." Perner does not teach or suggest that an up/down counter that performs this recited function. Further, the Office

8

Action indicates that dependent claim 6 is allowable ("the up/down counter receives a single clock pulse to adjust a fine calibration value in a tune-up calibration").

Claim 13

Independent claim 13 recites numerous limitations that are not taught or suggested in Perner. For example, claim 13 recites that the sense amplifier "includes a counter that provides the sense result as a sense count." Perner does not teach or suggest that the sense amplifier includes a counter that performs this function. Further, the Office Action indicates that dependent claim 16 is allowable ("the sense amplifier comprises a counter that provides the sense result as a sense count").

Claim 19

Independent claim 19 recites numerous limitations that are not taught or suggested in Perner. For example, claim 19 recites both a "**means for coarse calibration of the read circuit**" and "**means for fine calibration of the read circuit**" (emphasis added). In other words, the claim recites two different elements: means for coarse calibration and means for fine calibration. Nowhere does Perner teach or suggest these two different means for calibration of the read circuit.

FIG. 4a in Perner illustrates an example mode of operation. Here, a cell is written to a known state, and a threshold T is determined (6: 21-30). The threshold is then stored in a register and used to determine the value of a memory cell (6: 31-65). Nowhere does Perner teach or suggest both a means for coarse calibration and a means for fine calibration.

Claim 22

Independent claim 22 recites numerous limitations that are not taught or suggested in Perner. For example, claim 22 recites comparing the sense result to threshold values to determine complete calibration regions, tune-up calibration regions, and no calibration regions. In other words, the claim recites comparing the sense result to determine three different regions: calibration regions, tune-up regions, and no calibration

9

regions. Nowhere does Perner teach or suggest comparing a sense result to threshold values to determine these three regions.

FIGS. 4a – 4e in Perner illustrate different modes of operation of the digital sense amplifier (6: 12-14). Perner, however, does not teach or suggest comparing a sense result to threshold values to determine three different regions: calibration regions, tune-up regions, and no calibration regions.

Claim 27

Independent claim 27 recites numerous limitations that are not taught or suggested in Perner. For example, claim 27 recites "applying a clock signal to the up/down counter **to adjust fine and coarse calibration values** in the event the sense result exceeds the threshold value" (emphasis added). In other words, the claim recites adjusting for both fine and coarse calibration values. Nowhere does Perner teach or suggest these two different calibration values.

FIG. 4a in Perner illustrates an example mode of operation. Here, a cell is written to a known state, and a threshold T is determined (6: 21-30). The threshold is then stored in a counter and used to determine the value of a memory cell (6: 31-65). Nowhere does Perner teach or suggest that a counter is used to adjust both fine and coarse calibration values.

Claim 29

Independent claim 29 recites numerous limitations that are not taught or suggested in Perner. For example, claim 29 recites:

> comparing the first sense result to first and second upper
> threshold values and to first and second lower threshold values,
> where the first upper threshold value is greater than the second
> upper threshold value and the first lower threshold value is less
> than the second lower threshold value;

10

> providing a clock pulse to an up/down counter if the first sense
result is one of the following: greater than the second upper
threshold value and less than the second lower threshold value;
>
> performing a second sense operation and obtaining a second
sense result if the first sense result is one of the following: greater
than the first upper threshold value and less than the first lower
threshold value; and
>
> comparing the second sense result to the first and second upper
threshold values and to the first and second lower threshold values.

Applicants respectfully submit that Perner does not teach or suggest these numerous elements as arranged in claim 29. In order for a prior art reference to be anticipatory under 35 U.S.C. § 102 with respect to a claim, "[t]he elements must be arranged as required by the claim," see M.P.E.P. § 2131, citing *In re Bond*, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). If the Examiner maintains the rejection of claim 29, then Applicants respectfully ask the Examiner to provide locations in Perner for teaching each of the recited elements.

II. Allowable Subject-Matter

Applicants sincerely thank the Examiner for allowing or indicating allowance of claims 2-6, 14-18, and 21.

In light of the amendments and arguments, Applicants have made a sincere effort to put this case in condition for allowance.

11
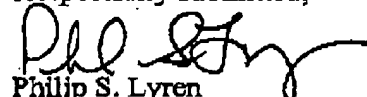
Application No. 10/675,740
Response to OA of 09/20/2005

CONCLUSION

In view of the above, Applicants believe all pending claims are in condition for allowance. Allowance of these claims is respectfully requested.

Any inquiry regarding this Amendment and Response should be directed to Philip S. Lyren at Telephone No. (281) 514-8236, Facsimile No. (281) 514-8332. In addition, all correspondence should continue to be directed to the following address:

Hewlett-Packard Company
Intellectual Property Administration
P.O. Box 272400
Fort Collins, Colorado 80527-2400
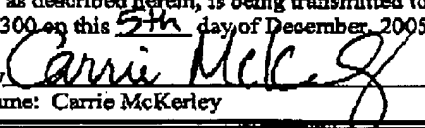
Respectfully submitted,

Philip S. Lyren
Reg. No. 40,709
Ph: 281-514-8236

CERTIFICATE UNDER 37 C.F.R. 1.8
The undersigned hereby certifies that this paper or papers, as described herein, is being transmitted to the United States Patent and Trademark Office facsimile number 571-273-8300 on this 5th day of December, 2005.

By
Name: Carrie McKerley

12